EMC TEST REPORT For IC

Test Report No.	:	KES-E1-17T0630
Date of Issue	:	Sep. 14, 2017
Product name	:	NETWORK CAMERA
Model/Type No.	:	XNF-8010RVMN
Variant Model	:	-
Applicant	:	Hanwha Techwin Co., Ltd.
Applicant Address	:	1204, Changwon-daero, Seongsan-gu Changwon-si, Gyeongsangnam-do, Korea
Manufacturer	:	Hanwha Techwin (Tianjin) Co.,Ltd.
Manufacturer Address	:	No.11 Weiliu Rd,Micro-Electronic Industrial Park, TEDA,Tianjin, 300385, People's Republic of China
Equipment authorization	:	☐ **Declaration of Conformity** ☒ **Verification** ☐ **Certification**
Date of Receipt	:	Aug. 04, 2017
Test date	:	Aug. 16, 2017 ~ Aug. 17, 2017
Test Results	:	☒ **In Compliance** ☐ **Not in Compliance**

Tested by

Dae Jung, Choi
EMC Test Engineer

Reviewed by

Dong-Hun, Jang
EMC Technical Manager

This test report is not related to KOLAS.

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REPORT REVISION HISTORY

Date	Test Report No.	Revision History
Sep. 14, 2017	KES-E1-17T0630	Issued

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1.0 General Product Description

Main Specifications of EUT are:

Video	
Imaging Device	1/1.8" 6M CMOS
Total Pixels	3,096x2,094
Effective Pixels	2,048x2,048
Scanning System	Progressive
Min. Illumination	Color : 0.07Lux(F2.2, 30IRE) B/W : 0 Lux (IR LED On)
S / N Ratio	50dB
Video Out	CVBS : 1.0 Vp-p / 75Ω composite, 714x480(N), 702x576(P), for installation - DIP connector type USB
Lens	
Focal Length (Zoom Ratio)	1.6mm
Max. Aperture Ratio	F1.6
Angular Field of View	H : 187˚ / V : 187˚ / D : 187˚
Min. Object Distance	0.3m
Focus Control	Simple Focus / Manual - Remote control via network
Lens Type	Fixed Lens
Mount Type	Board Type
Operational	
Viewable Length	15m
Camera Title	Off / On (Displayed up to 85 characters) - W/W : English/Numeric/Special Characters - China : English/Numeric/Special/Chinese Characters - Common : Multi-line (Max 5), Color (Grey/Green/Red/Blue/Black/White), Transparency, Auto Scale by Resolution
Day & Night	Auto (ICR) / Color / B/W / External / Schedule
Backlight Compensation	OFF / BLC / HLC(Masking / Dimming) / WDR
Wide Dynamic Range	120dB
Contrast Enhancement	SSDR Off / On
Digital Noise Reduction	SSNR V (2D+3D noise filter) Off / On
~~Digital Image Stabilization~~	~~Off/On~~
~~Defog~~	~~Off/Auto(input from fog detection) / Manual~~
Motion Detection	Off / On (8ea, 8point Polygonal zones), Hand over
Privacy Masking	Off / On (32ea, Polygonal) - Color : Gray, Green, Red, Blue, Black, White, Mosaic
Gain Control	Off / Low / Middle / High / Manual
White Balance	ATW / AWC / Manual / Indoor / Outdoor(Included mercury&Sodium)
Electronic Shutter Speed	Minimum / Maximum / Anti flicker(2~1/12,000sec)
Digital Zoom	24x, Digital PTZ(Preset, Group)
Flip / Mirror	Off / On
Video & Audio Analytics	Tampering, Loitering, Directional detection, ~~Defocus detection, Fog detection~~, Virtual line, Enter/Exit, (Dis)Appear, Audio detection, ~~Face detection~~, Motion detection, ~~Digital auto tracking~~, Sound classification
Alarm I/O	Input 1ea / Output 1ea
Alarm Triggers	Alarm Input, Motion Detection, Video & Audio Analytics , Network Disconnect, SD card error, NAS error
Alarm events	File upload via FTP and E-Mail Notification via E-Mail local storage(SD/SDHC/SDXC) or NAS recording at Event Triggers External output, ~~DPTZ preset~~

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View Composition	<Camera Side> Fisheye Single Panorama Double Panorama Fisheye+4 PTZ Quad view Fisheye+8 PTZ
Pixel Counter	Support
Network	
Ethernet	RJ-45 (10/100BASE-T)
Video Compression Format	H.265/H.264/MJPEG
Resolution	[Original View(1:1)] 2048x2048 / 1280x1280 / 1080x1080 / 960x960 / 768x768 / 720x720 / 640x640 / 480x480
	[Single Panorama(4:1)] 2048x512 / 1920x480 / 1280x320 / 640x160 / 704x176 [Double Panorama(2:1)] 2048x1024 / 1920x960 / 1280x640 / 640x320 / 704x352 [Quad View(4:3)] 2048x1536 / 1600x1200 / 1280x960 / 1024x768 / 800x600 / 640x480 / 704x576 [Q1/2/3/4] 1024x768, 800x600, 640x480
Max. Framerate	H.265/H.264 : 30fps@2,048x2,048
	MJPEG : Max 15fps
Smart Codec	Manual Mode (area-based : 5EA)
WiseStreamⅡ	Support
Video Quality Adjustment	H.265/H.264 : Target Bitrate Level Control MJPEG : Quality Level Control
Bitrate Control Method	H.265/H.264 : CBR or VBR MJPEG : VBR
Streaming Capability	Multiple Streaming (Up to 10profiles)
Audio In	Selectable (Mic IN/Line IN/Built-in mic) Supply voltage: 2.5VDC(4mA), Input impedance: approx. 2K Ohm
Audio out	Line out (3.5mm mono jack), Max output level: 1 Vrms
Audio Compression Format	G.711 u-law /G.726 Selectable G.726 (ADPCM) 8KHz, G.711 8KHz G.726 : 16Kbps, 24Kbps, 32Kbps, 40Kbps AAC-LC : 48Kbps at 16KHz
Audio Communication	Bi-directional(2way)
IP	IPv4, IPv6
Protocol	TCP/IP, UDP/IP, RTP(UDP), RTP(TCP), RTCP,RTSP, NTP, HTTP, HTTPS, SSL/TLS, DHCP, PPPoE, FTP, SMTP, ICMP, IGMP, SNMPv1/v2c/v3(MIB-2), ARP, DNS, DDNS, QoS, PIM-SM, UPnP, Bonjour, SIP
Security	HTTPS(SSL) Login Authentication Digest Login Authentication IP Address Filtering User access Log 802.1x Authentication (EAP-TLS, EAP-LEAP)
Streaming Method	Unicast / Multicast
Max. User Access	20 users at Unicast Mode
Edge Storage	SD/SDHC/SDXC 2slot(up to 512GB) - Continuous recording(1st slot to 2nd slot) - motion Images recorded in the SD/SDHC/SDXC memory card can be downloaded. - camera can detect automatically when the memory is connected - memory status display (normal/error/active/formatting/lock) NAS(Network Attached Storage) Local PC for Instant Recording(plug-in viewer only)
Application Programming Inte	ONVIF Profile S/G SUNAPI Wisenet open plafrom

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Webpage Language	English, French, German, Spanish, Italian, Chinese, Korean, Russian, Japanese, Swedish, Portuguese, Turkish, Polish, Czech, Dutch, Hungary, Greek
Web Viewer	Supported OS: Windows 7, 8.1, 10, Mac OS X 10.9. 10.10. 10.11. 10.12 Plug-in Free Webviewer Supported Browser : Google Chrome, MS Edge, Mozilla Firefox (Window 64bit only), Apple Safari *Mac OS X only Plug-in Webviewer Supported Browser : MS Explore, Apple Safari * Mac OS X only
Central Management Software	Smart Viewer
Environmental	
Operating Temperature / Humidity	-10°C ~ +55°C / Less than 90% RH
Storage Temperature / Humidity	-50°C ~ +60°C (-22°F ~ +140°F) / Less than 90% RH
Ingress Protection	-
Vandal Resistance	-
Electrical	
Input Voltage / Current	DC12V±10%,PoE(IEEE802.3af,Class3)
Power Consumption	DC12V(9.5W 0.8A), PoE(10.5W 0.28A)
Mechanical	
Color / Material	Ivory/ALUMINUM, PLASTIC
Dimension (WxHxD)	D146 x H54.8
Weight	730g

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1.1 Test Voltage & Frequency

Unless indicated otherwise on the individual data sheet or test results, the test voltage and frequency was as indicated below.

Voltage ☐ 230 Vac ☐ 120 Vac ☐ 24 Vac ☒ 12 Vdc ☒ PoE

Frequency ☐ 50 Hz ☐ 60 Hz ☐ Hz

1.2 Variant Model Differences

Not applicable

1.3 Device Modifications

Not applicable

1.4 Equipment Under Test

Description	Model Number	Serial Number	Manufacturer	Remarks
NETWORK CAMERA	XNF-8010RVMN	-	Hanwha Techwin (Tianjin) Co.,Ltd.	E.U.T

1.5 Support Equipments

Description	Model Number	Serial Number	Manufacturer	Remarks
PoE ADAPTER	GS728TPP	-	NETGEAR, INC.	-
Notebook	NT730U3E	JJRE91CF200065A	Samsung Electronics Co., Ltd.	-
AC/DC ADAPTER	PA-1600-66	AD-6019P	LITE ON TECHNOLOGY CORPORATION	-
Speaker	BR10000A CUVE	-	BEIJING EDIFIER HI-TECH GROUP.	-
Mike	CMK-303	-	CAMAC	-
Alarm	-	-	-	-

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1.6 External I/O Cabling

- 12 V (dc) Mode

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
NETWORK CAMERA (E.U.T)	RJ-45(LAN)	Notebook	RJ-45(LAN)	4.0	U
	MIKE	Mike	MIKE	1.7	U
	AUDIO	Speaker	AUDIO	1.7	U
	Alarm	Alarm	Alarm	3.0	U

- PoE Mode

Start		END		Cable Spec.	
Description	**I/O Port**	**Description**	**I/O Port**	**Length**	**Shield**
NETWORK CAMERA (E.U.T)	RJ-45(PoE)	PoE ADAPTER	RJ-45(PoE)	4.0	U
	MIKE	Mike	MIKE	1.7	U
	AUDIO	Speaker	AUDIO	1.7	U
	Alarm	Alarm	Alarm	3.0	U
PoE ADAPTER	RJ-45(LAN)	Notebook	RJ-45(LAN)	5.0	U

* Unshielded = U, Shielded = S

1.7 EUT Operating Mode(s)

Test mode	operating
12 V (dc)	E.U.T Monitoring, Ping test
PoE	E.U.T Monitoring, Ping test

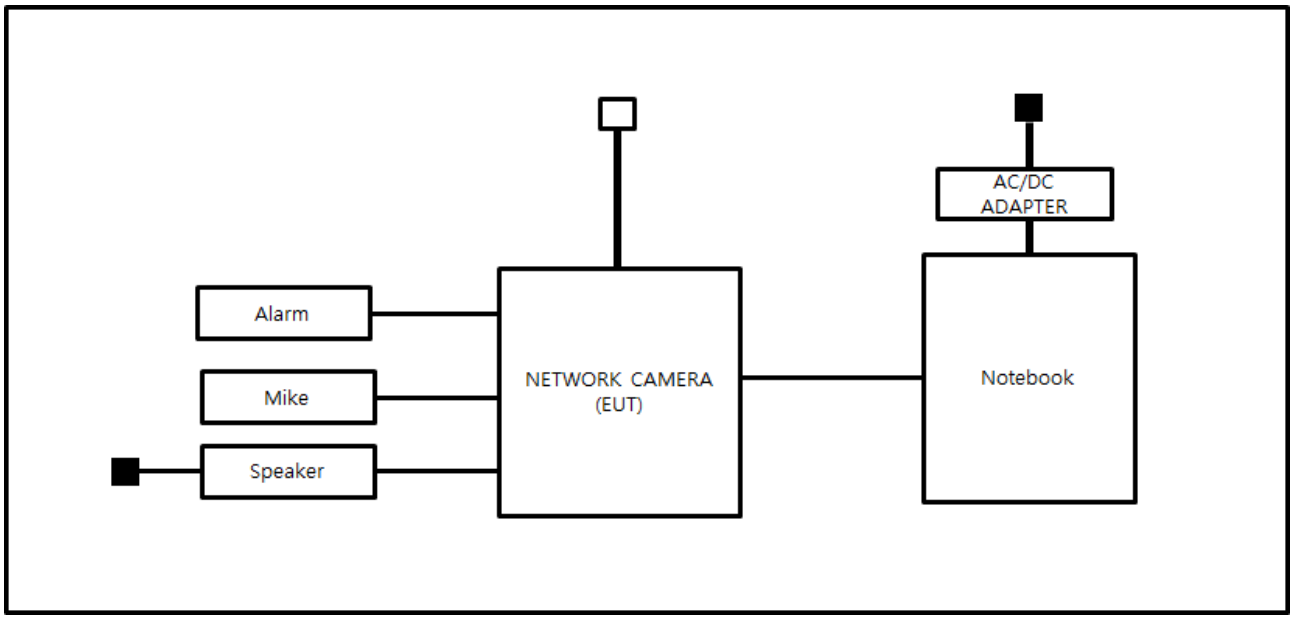
E.U.T Test operating S/W		
Name	Version	Manufacture Company
-	-	-

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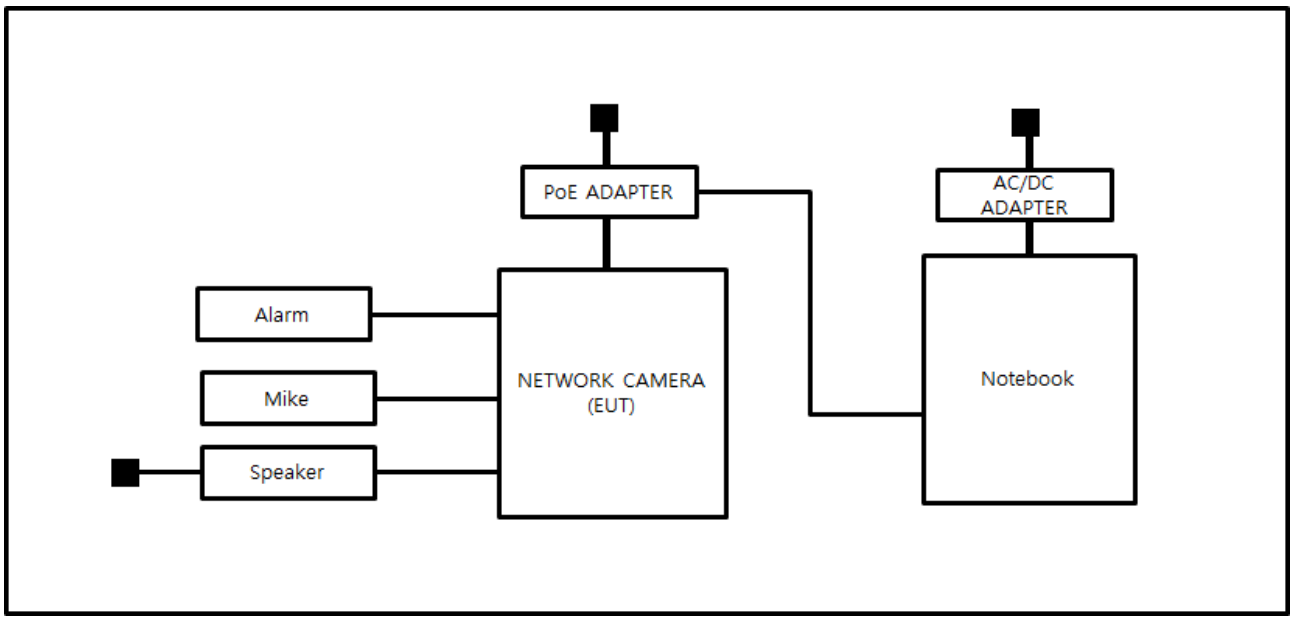
1.8 Configuration

■ AC Main
□ DC Main

- 12 V (dc) Mode



- PoE Mode



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1.9 Remarks when standards applied

- N/A

1.10 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less.

1.11 Test Facility

The measurement facility is located at 473-21 Gayeo-ro, Yeoju-si, Gyeonggi-do, 12658, Korea. The sites are constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22.

1.12 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
USA	**FCC**	3 & 10 meter Open Area Test Sites and one conducted site to perform FCC Part 15/18 measurements.	
JAPAN	**VCCI**	Mains Ports Conducted Interference Measurement, Telecommunication Ports Conducted Disturbance Measurement and Radiation 10 meter site, Facility for measuring radiated disturbance above 1 GHz	R-4308, C-4798, T-2311, G-914
KOREA	**MSIP**	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KR0100
Canada	**IC**	3 & 10 meter Open Area Test Sites and one conducted site	4769B-1
Europe	**CE**	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	
International	**KOLAS**	EMI (10 meter Open Area Test Site and two conducted sites) Radio(3 & 10 meter Open Area Test Sites and one conducted site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and interruptions)	KOREA LABORATORY ACCREDITATION SCHEME KOLAS TESTING NO. 489

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2.0 Test Regulations

The emissions tests were performed according to following regulations:

☐ **EMC – Directive 2014/30/EU**

☐ EN 61000-6-3:2011

☐ EN 61000-6-1:2007

☐ EN 61000-6-4:2007 +A1:2011

☐ EN 61000-6-2:2005

☐ EN 55011:2007 +A1:2010 ☐ Group 1 ☐ Class A ☐ Group 2 ☐ Class B

☐ EN 55014-1:2006 +A2:2011

☐ EN 55014-2:1997 +A2:2008

☐ EN 55015:2013

☐ EN 61547 :2009

☐ EN 55032:2012 ☐ Class A ☐ Class B

☐ EN 55024:2010 +A1:2015

☐ EN 50130-4:2011 +A1:2014

☐ EN 61000-3-2:2014

☐ EN 61000-3-3:2013

☐ EN 61326-1:2013

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☐ **VCCI V-3 / 2015.04** ☐ Class A ☐ Class B

☐ **AS/NZS CISPR22:2009 +A1:2010** ☐ Class A ☐ Class B

☐ **47 CFR Part 15, Subpart B**

- ☐ CISPR 22:2009 +A1:2010 ☐ Class A ☐ Class B
- ☐ ANSI C63.4-2009

☒ **IC Regulation ICES-003 : 2016**

- ☒ CAN/CSA CISPR 22-10 ☒ Class A ☐ Class B
- ☐ ANSI C63.4-2014

☐ **RE– Directive 2014/53/EU**

☐ EN 301 489-1 V1.9.2

- ☐ Equipment for fixed use
- ☐ Equipment for vehicular use
- ☐ Equipment for portable use

☐ EN 301 489-3 V1.6.1

☐ EN 301 489-17 V2.2.1

☐ EN 60945:2002

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2.1 Conducted Emissions Mains Power Ports

Test Date
N/A

Test Location
Electro wave Shieldroom

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☐	EMI Test S/W	EMC32	R & S	9.12.00	-
☐	EMI TEST RECEIVER	ESR3	R & S	101781	04, 27, 2018
☐	LISN	ENV216	R & S	101787	01, 11, 2018
☐	LISN	ESH2-Z5	R & S	100450	04, 27, 2018
☐	PULSE LIMITER	ESH3-Z2	R & S	101915	12, 13, 2017

Test Conditions
Temperature: ℃
Relative Humidity: %

Frequency Range of Measurement
150 ㎑ to 30 ㎒

Instrument Settings
IF Band Width: 9 ㎑

Test Results
The requirements are:

☐ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
N/A

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2.2 Radiated Electric Field Emissions(Below 1 ㎓)

Test Date
Aug. 16, 2017

Test Location
☒ OPEN AREA TEST SITE #2 ☐ SAC #4(10 m)

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	-	-	-	-
☒	EMI TEST RECEIVER	ESVS10	R & S	826008/014	04, 18, 2018
☒	TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	714	11, 28, 2018

Test Conditions
Temperature: 23,7 ℃
Relative Humidity: 94,0 %

Frequency Range of Measurement
30 ㎒ to 1 ㎓

Instrument Settings
IF Band Width: 120 ㎑

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

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2.3 Radiated Electric Field Emissions(Above 1 ㎓)

Test Date
Aug. 17, 2017

Test Location
SEMI ANECHOIC CHAMBER #2

Test Equipment

Used	Description	Model Number	Manufacturer	Serial Number	Cal. Due
☒	EMI Test S/W	e3	AUDIX	8.083b	-
☒	EMI TEST RECEIVER	ESU26	R & S	100552	2018.04.19
☒	PREAMPLIFIER	8449B	AGILENT	3008A01729	2018.05.31
☐	ATTENUATOR	8491A	HP	35496	2018.03.24
☒	LOG-PERIODIC ANTENNA	STLP 9149	SCHWARZBECK	9149-255	2018.05.17

Test Conditions
Temperature: 23,1 ℃
Relative Humidity: 49,6 %

Frequency Range of Measurement
1 ㎓ to 6 ㎓

Instrument Settings
IF Band Width: 1 ㎒

Test Results
The requirements are:

☒ PASS
☐ NOT PASS
☐ NOT APPLICABLE

Remarks
See Appendix A for test data.

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APPENDIX A – TEST DATA

Conducted Emissions at Mains Power Ports

[HOT]

N/A

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[NEUTRAL]

N/A

♦ Calculation
QuasiPeak[dBuV] / CAverage [dBuV] = Reading Value[dBuV] + Corr. [dB]
QuasiPeak / CAverage : The Final Value
Reading Value : Not shown in the table.
Corr. : Correction values (LISN FACTOR + (Cable Loss + Pulse Limiter FACTOR))

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Radiated Electric Field Emissions(Below 1 ㎓)

- 12 V (dc) Mode

Frequency	Amplitude	ANT Polar. (H/V)	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin
[㎒]	[dBμV]		[m]	ANT. [dB/m]	Cable [dB]	[dBμV/m]	[dBμV/m]	[dB]
30.60	17.30	V	1.00	9.30	1.35	27.95	40.00	12.05
43.70	15.00	V	3.91	12.84	1.75	29.59	40.00	10.41
64.80	23.10	V	1.38	10.35	2.13	35.58	40.00	4.42
66.23	24.40	V	1.44	9.91	2.16	36.47	40.00	3.53
98.37	19.90	V	1.46	11.33	2.69	33.92	40.00	6.08
249.95	13.50	V	1.05	12.49	4.62	30.61	47.00	16.39
800.03	7.20	H	1.00	21.00	9.34	37.54	47.00	9.46

* H : Horizontal, V : Vertical

- PoE Mode

Frequency	Amplitude	ANT Polar. (H/V)	ANT. Height	Correction Factor		Corrected Amplitude	Applicable Limit	Margin
[㎒]	[dBμV]		[m]	ANT. [dB/m]	Cable [dB]	[dBμV/m]	[dBμV/m]	[dB]
43.70	20.80	V	1.00	12.84	1.75	35.39	40.00	4.61
110.72	23.30	V	1.00	10.11	2.86	36.27	40.00	3.73
111.60	23.20	V	1.04	9.99	2.88	36.07	40.00	3.93
151.50	23.00	V	1.00	7.94	3.45	34.39	40.00	5.61
249.95	16.90	V	1.00	12.49	4.62	34.01	47.00	12.99
800.05	6.50	H	1.02	21.00	9.34	36.84	47.00	10.16

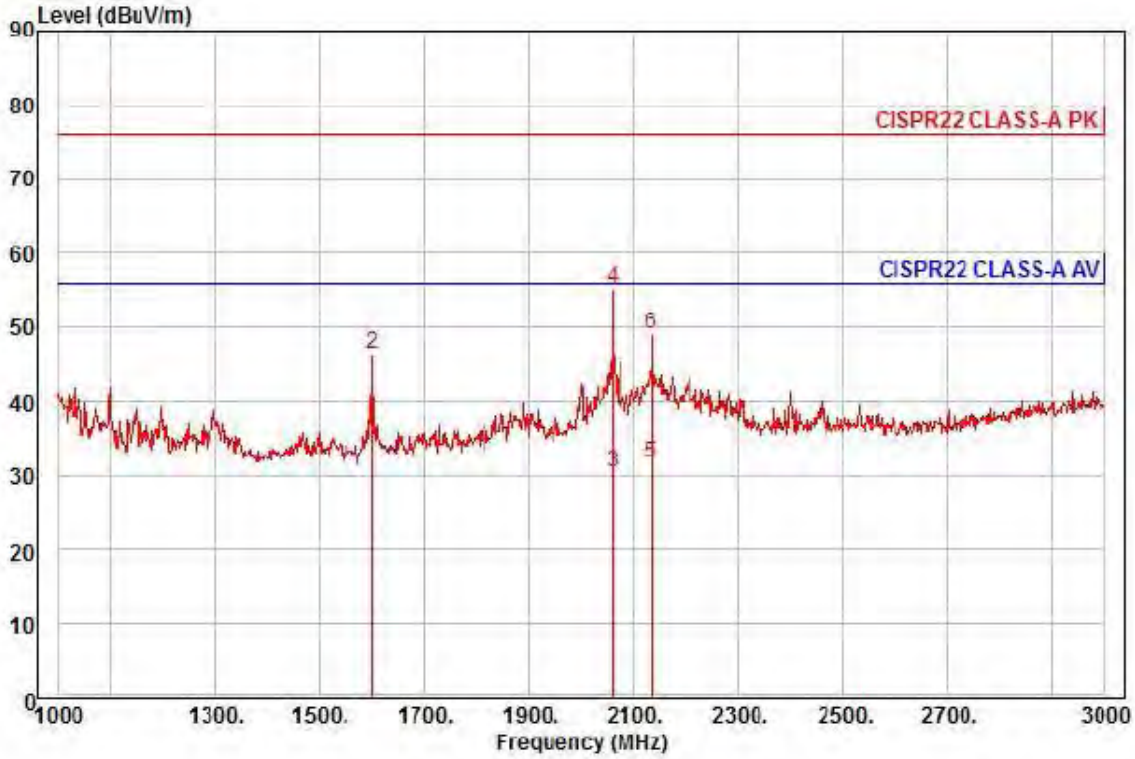
* H : Horizontal, V : Vertical

♦ Calculation
Corrected Amplitude [㏈uV] = Amplitude[㏈uV] + Correction Factor [㏈]
Corrected Amplitude : The Final Value, Amplitude : Reading Value,
Correction Factor : ANT FACTOR + Cable loss

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Radiated Electric Field Emissions(Above 1 ㎓)

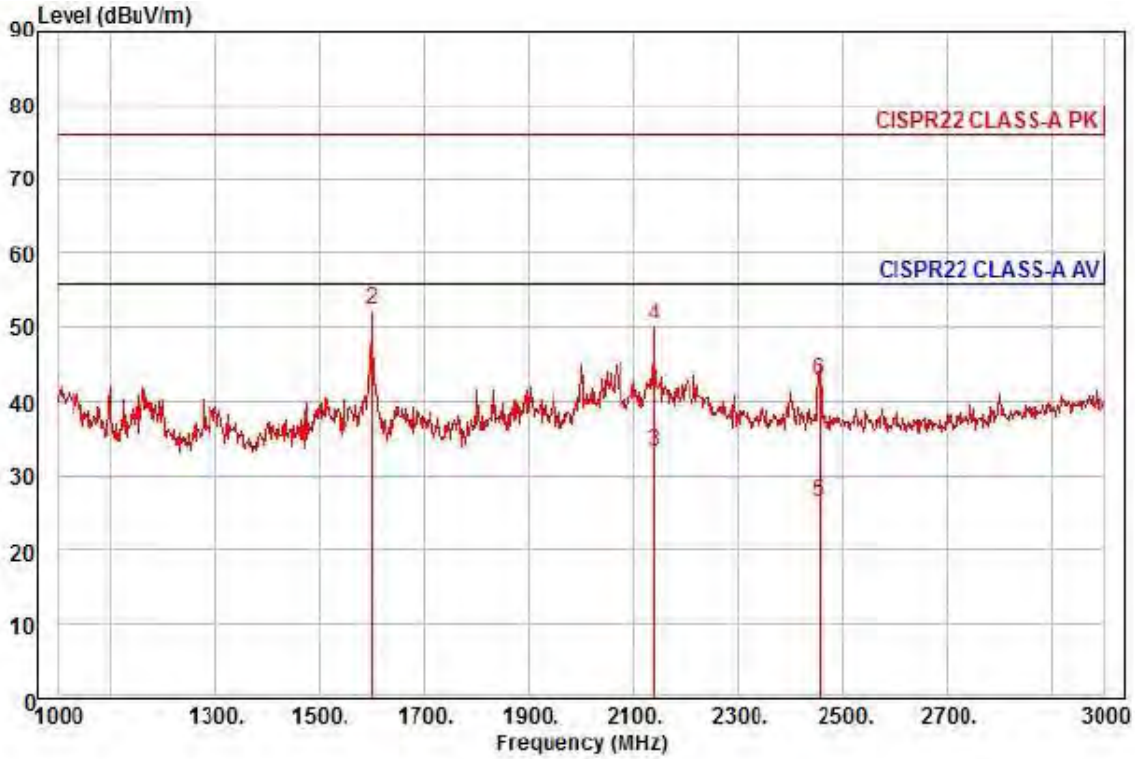
- 12 V (dc) Mode



Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(RRA CAL 2017-05-18) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNF-8010RVMN
Mode : 12 V (dc)
Memo : (1 - 3) GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1 pp	1600.00	39.13	24.42	8.51	35.53	54	56.00	-19.47	horizontal	Average
2	1600.00	48.92	24.42	8.51	35.53	54	76.00	-29.68	horizontal	Peak
3	2060.00	29.57	26.19	9.79	35.19	94	56.00	-25.64	horizontal	Average
4 pk	2060.00	54.40	26.19	9.79	35.19	94	76.00	-20.81	horizontal	Peak
5	2134.00	30.35	26.42	9.97	35.22	150	56.00	-24.48	horizontal	Average
6	2134.00	47.81	26.42	9.97	35.22	150	76.00	-27.02	horizontal	Peak

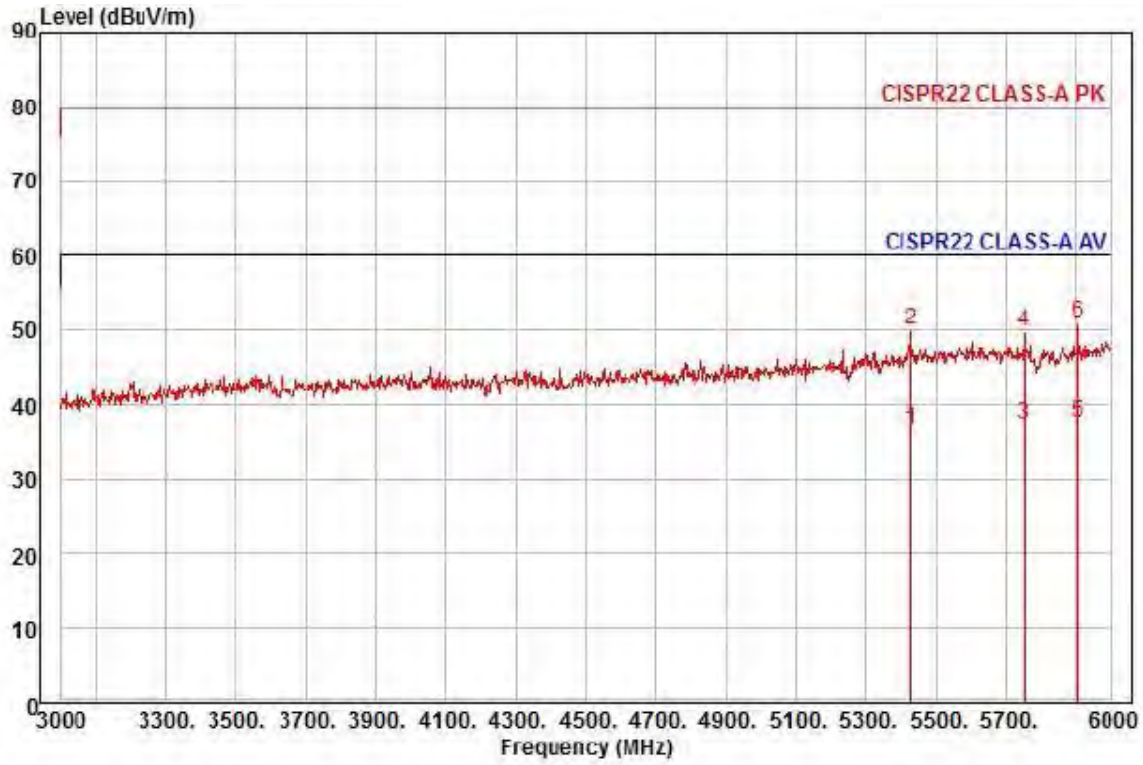
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Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(RRA CAL 2017-05-18) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNF-8010RVMN
Mode : 12 V (dc)
Memo : (1 - 3) GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1 pp	1600.00	44.27	24.42	8.51	35.53	144	56.00	-14.33	vertical	Average
2 pk	1600.00	55.10	24.42	8.51	35.53	144	76.00	-23.50	vertical	Peak
3	2140.00	32.15	26.44	9.98	35.22	350	56.00	-22.65	vertical	Average
4	2140.00	49.06	26.44	9.98	35.22	350	76.00	-25.74	vertical	Peak
5	2454.00	23.70	27.39	10.72	35.35	313	56.00	-29.54	vertical	Average
6	2454.00	40.20	27.39	10.72	35.35	313	76.00	-33.04	vertical	Peak

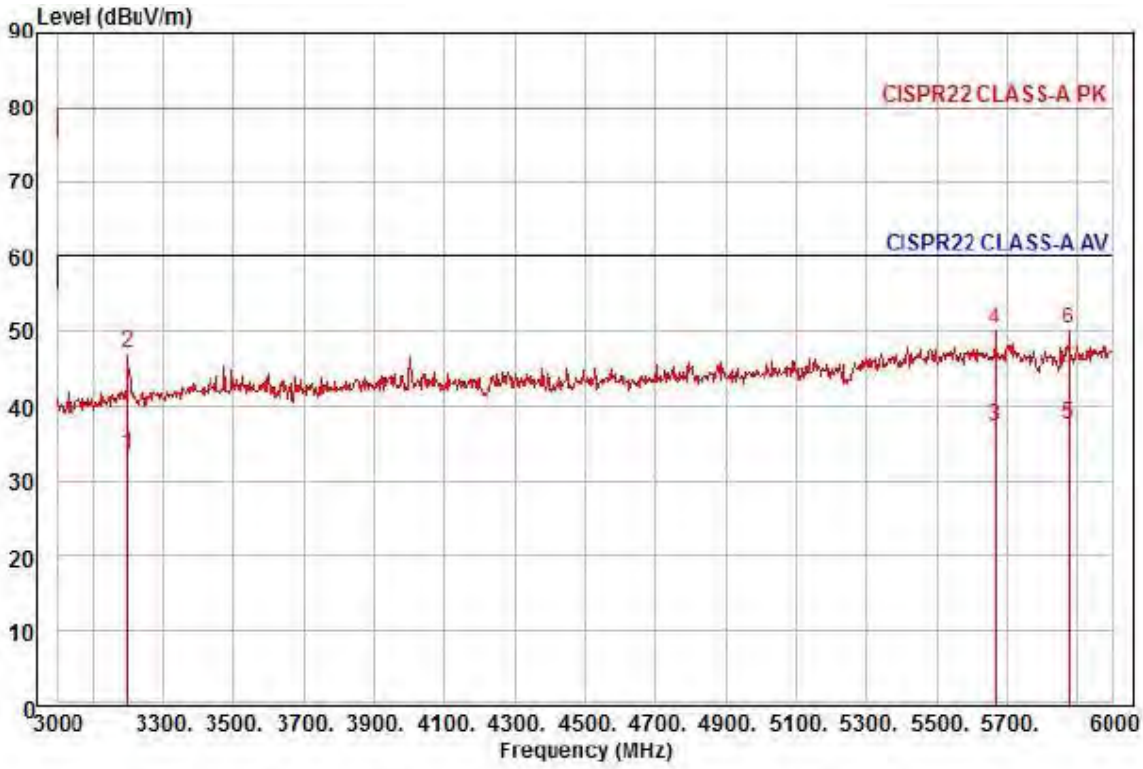
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Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(RRA CAL 2017-05-18) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNF-8010RVMN
Mode : 12 V (dc)
Memo : (3 - 6) GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	5430.00	20.67	35.10	16.50	35.66	129	60.00	-23.39	horizontal	Average
2	5430.00	34.00	35.10	16.50	35.66	129	80.00	-30.06	horizontal	Peak
3	5751.00	20.17	35.75	16.98	35.68	114	60.00	-22.78	horizontal	Average
4	5751.00	32.82	35.75	16.98	35.68	114	80.00	-30.13	horizontal	Peak
5 pp	5904.00	19.81	35.98	17.36	35.68	225	60.00	-22.53	horizontal	Average
6 pk	5904.00	33.25	35.98	17.36	35.68	225	80.00	-29.09	horizontal	Peak

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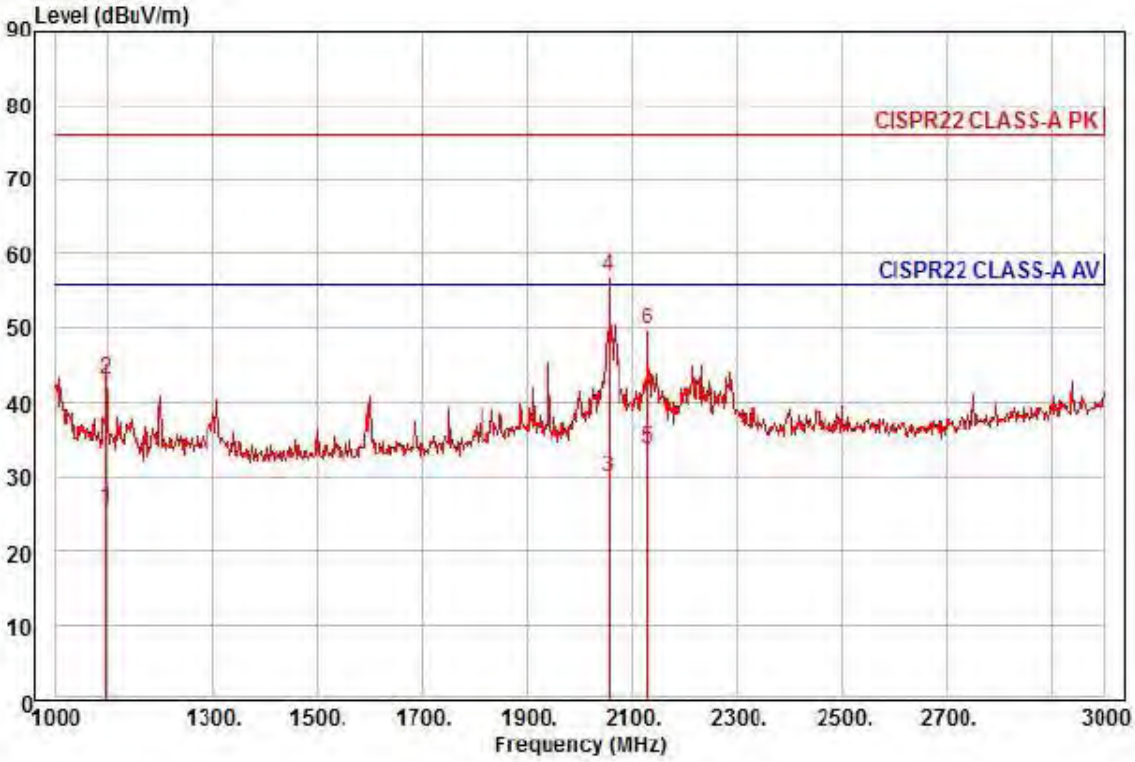


Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(RRA CAL 2017-05-18) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNF-8010RVMN
Mode : 12 V (dc)
Memo : (3 - 6) GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3198.00	26.02	30.30	12.66	35.50	325	60.00	-26.52	vertical	Average
2	3198.00	39.59	30.30	12.66	35.50	325	80.00	-32.95	vertical	Peak
3	5667.00	20.37	35.62	16.86	35.67	244	60.00	-22.82	vertical	Average
4	5667.00	33.42	35.62	16.86	35.67	244	80.00	-29.77	vertical	Peak
5 pp	5877.00	19.89	35.94	17.28	35.68	154	60.00	-22.57	vertical	Average
6 pk	5877.00	32.71	35.94	17.28	35.68	154	80.00	-29.75	vertical	Peak

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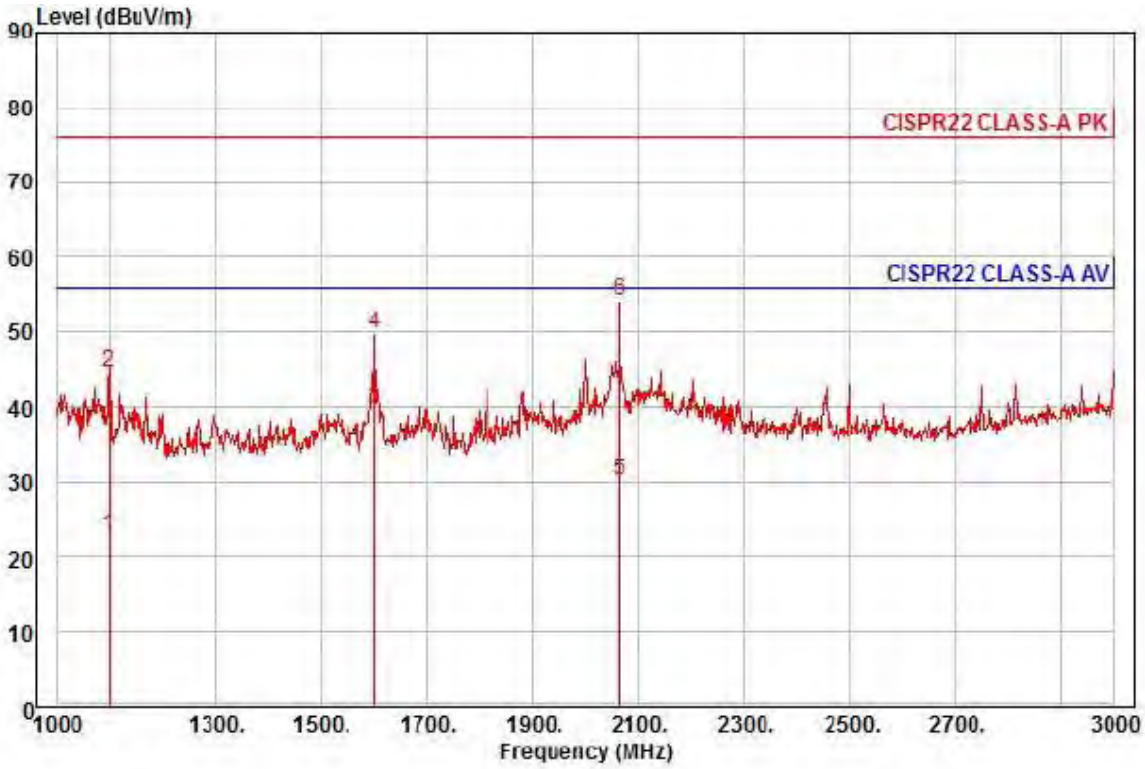
- PoE Mode



Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(RRA CAL 2017-05-18) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNF-8010RVMN
Mode : PoE
Memo : (1 - 3) GHz

		Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
		MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1		1096.00	31.98	22.79	6.95	35.97	118	56.00	-30.25	horizontal	Average
2		1096.00	49.32	22.79	6.95	35.97	118	76.00	-32.91	horizontal	Peak
3		2054.00	29.08	26.17	9.78	35.19	303	56.00	-26.16	horizontal	Average
4	pp	2054.00	56.17	26.17	9.78	35.19	303	76.00	-19.07	horizontal	Peak
5	av	2130.00	32.79	26.41	9.96	35.22	99	56.00	-22.06	horizontal	Average
6		2130.00	48.61	26.41	9.96	35.22	99	76.00	-26.24	horizontal	Peak

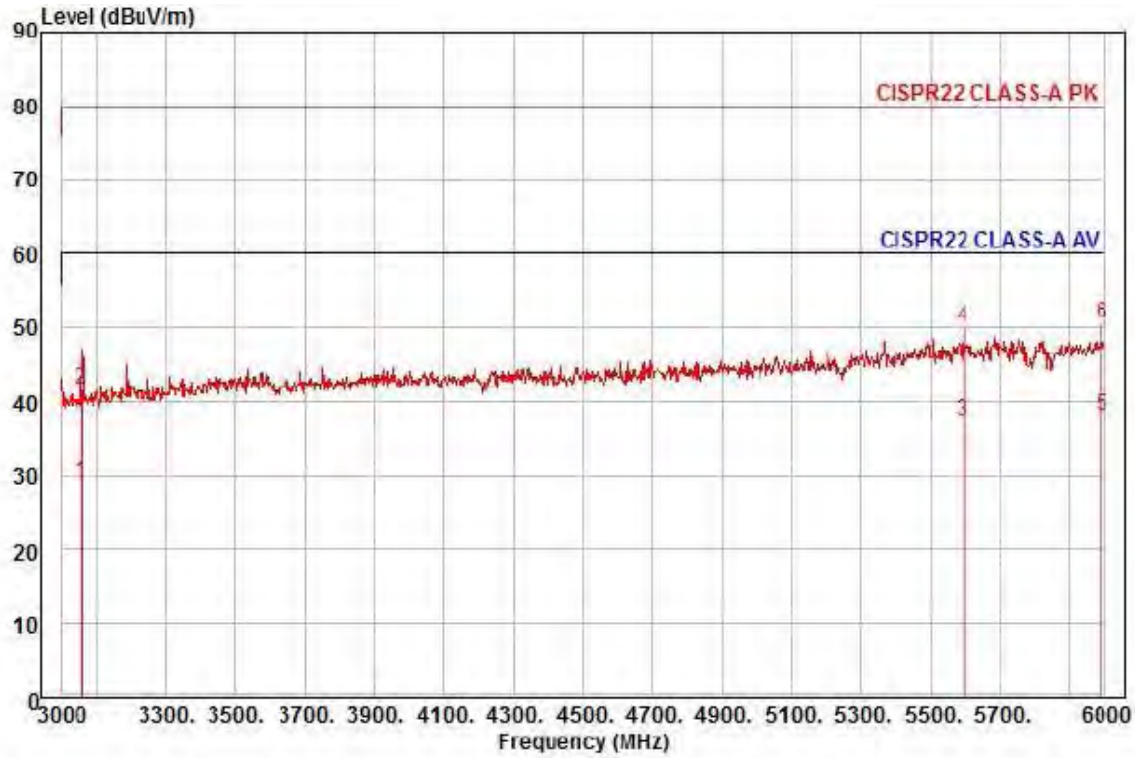
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Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(RRA CAL 2017-05-18) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNF-8010RVMN
Mode : PoE
Memo : (1 - 3) GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	1098.00	29.01	22.80	6.95	35.97	324	56.00	-33.21	vertical	Average
2	1098.00	50.95	22.80	6.95	35.97	324	76.00	-31.27	vertical	Peak
3 pp	1600.00	42.32	24.42	8.51	35.53	76	56.00	-16.28	vertical	Average
4	1600.00	52.44	24.42	8.51	35.53	76	76.00	-26.16	vertical	Peak
5	2064.00	29.30	26.20	9.80	35.19	192	56.00	-25.89	vertical	Average
6 pk	2064.00	53.42	26.20	9.80	35.19	192	76.00	-21.77	vertical	Peak

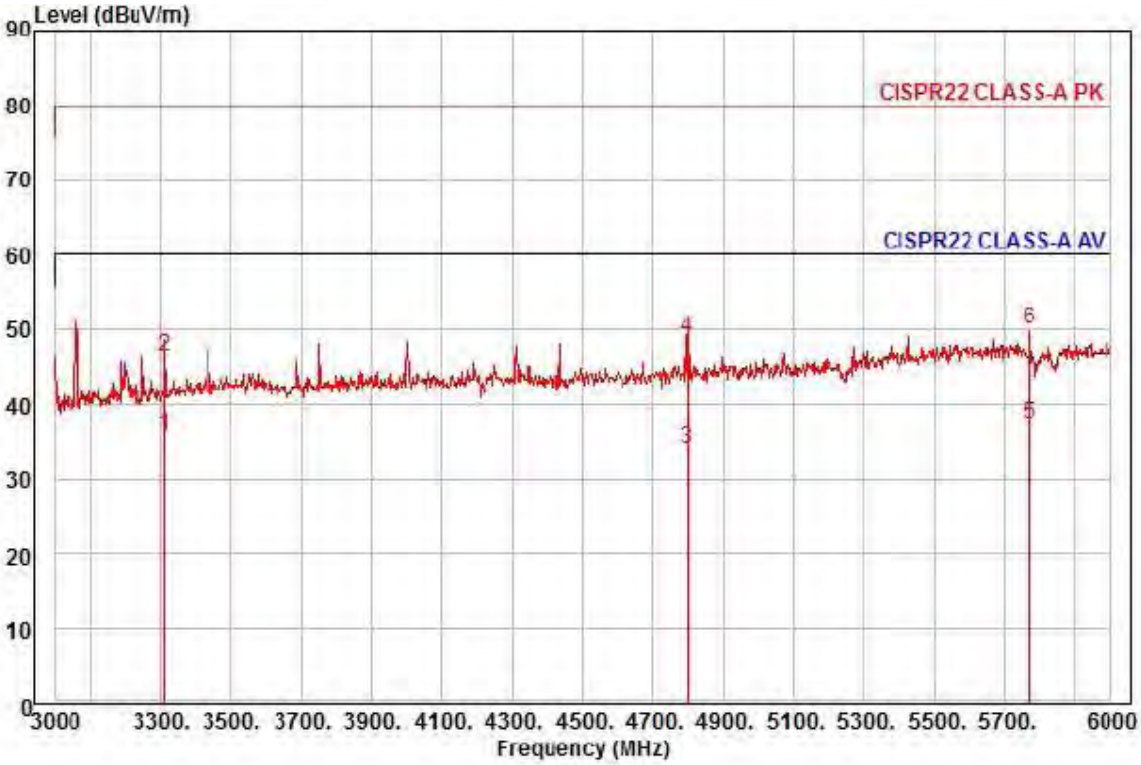
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Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(RRA CAL 2017-05-18) horizontal
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNF-8010RVMN
Mode : PoE
Memo : (3 - 6) GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3060.00	22.21	29.91	12.30	35.54	187	60.00	-31.12	horizontal	Average
2	3060.00	34.97	29.91	12.30	35.54	187	80.00	-38.36	horizontal	Peak
3	5595.00	20.65	35.51	16.76	35.67	89	60.00	-22.75	horizontal	Average
4	5595.00	33.46	35.51	16.76	35.67	89	80.00	-29.94	horizontal	Peak
5 pp	5994.00	19.99	36.11	17.63	35.69	151	60.00	-21.96	horizontal	Average
6 pk	5994.00	32.49	36.11	17.63	35.69	151	80.00	-29.46	horizontal	Peak

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Site : chamber
Condition: CISPR22 CLASS-A PK 3m STLP9149(RRA CAL 2017-05-18) vertical
: RBW:1000.000kHz VBW:1000.000kHz SWT:Auto
Project :
Model : XNF-8010RVMN
Mode : PoE
Memo : (3 - 6) GHz

	Freq	Read Level	Ant Factor	Cable Loss	Preamp Factor	TPos	Limit Line	Over Limit	Pol/Phase	Remark
	MHz	dBuV	dB/m	dB	dB	deg	dBuV/m	dB		
1	3312.00	27.72	30.62	12.86	35.47	176	60.00	-24.27	vertical	Average
2	3312.00	38.41	30.62	12.86	35.47	176	80.00	-33.58	vertical	Peak
3	4797.00	21.21	32.98	15.51	35.56	173	60.00	-25.86	vertical	Average
4	4797.00	35.89	32.98	15.51	35.56	173	80.00	-31.18	vertical	Peak
5 pp	5769.00	20.08	35.77	17.00	35.68	128	60.00	-22.83	vertical	Average
6 pk	5769.00	32.99	35.77	17.00	35.68	128	80.00	-29.92	vertical	Peak

♦ Calculation
Over Limit [dB] = (Read Level[dB㎶] + Ant Factor[dB/m] + Cable Loss [dB] − Preamp Factor [dB]) − Limit Line[dB㎶]
Over Limit : Marjin, Read Level : Reading value, Ant Factor : ANT Factor,
Cable Loss : Cable loss, Preamp Factor : Preamp Factor

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Test Setup Photos and Configuration

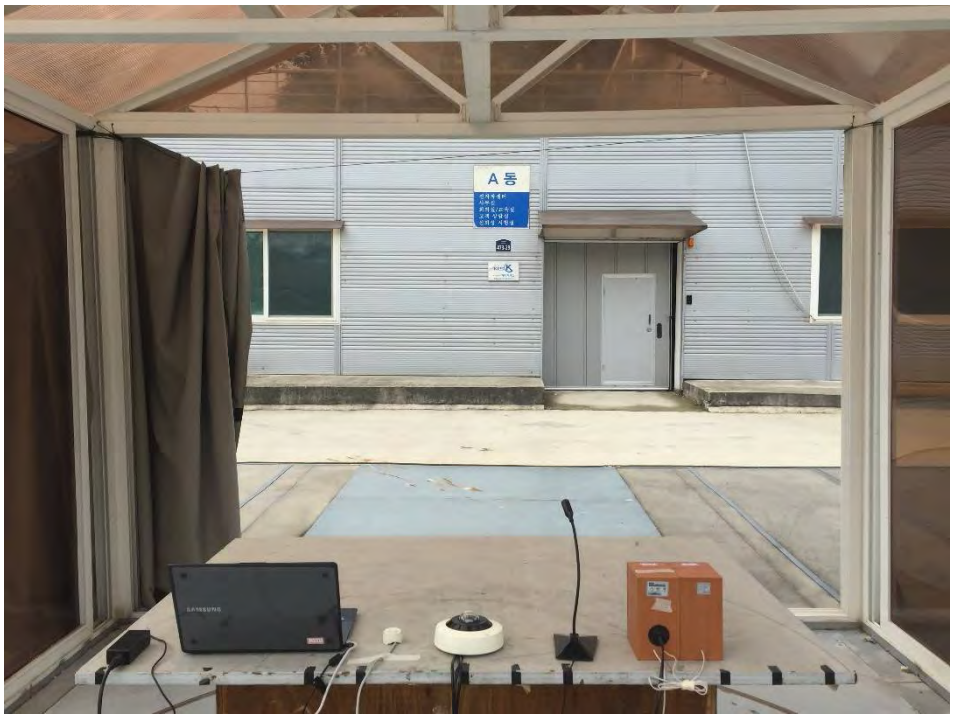
Conducted Voltage Emissions

N/A

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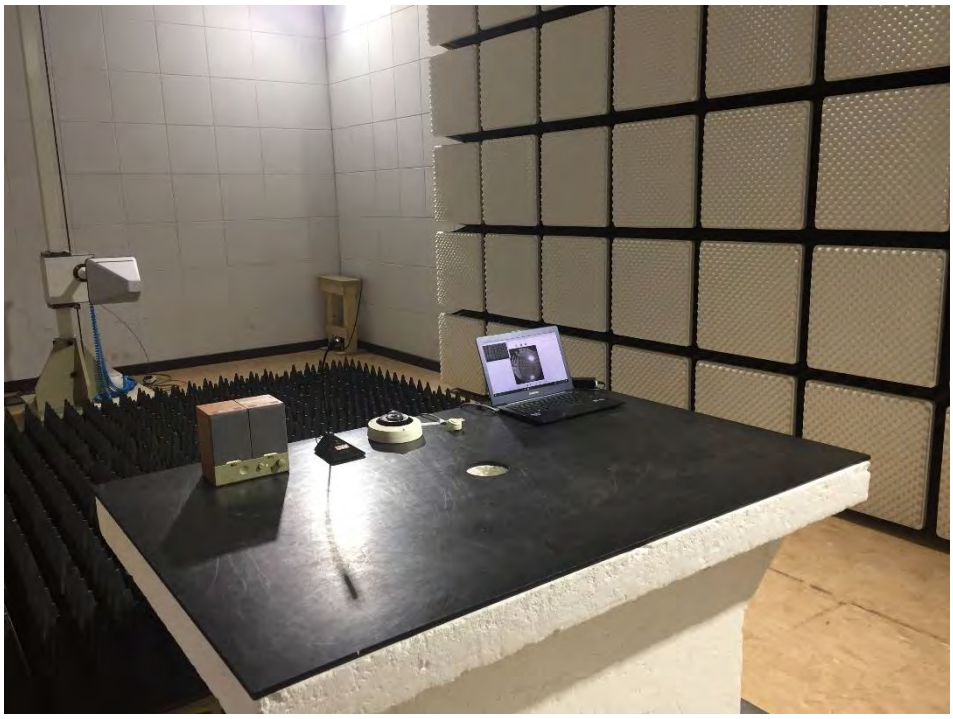
Radiated Electric Field Emissions(Below 1 ㎓)

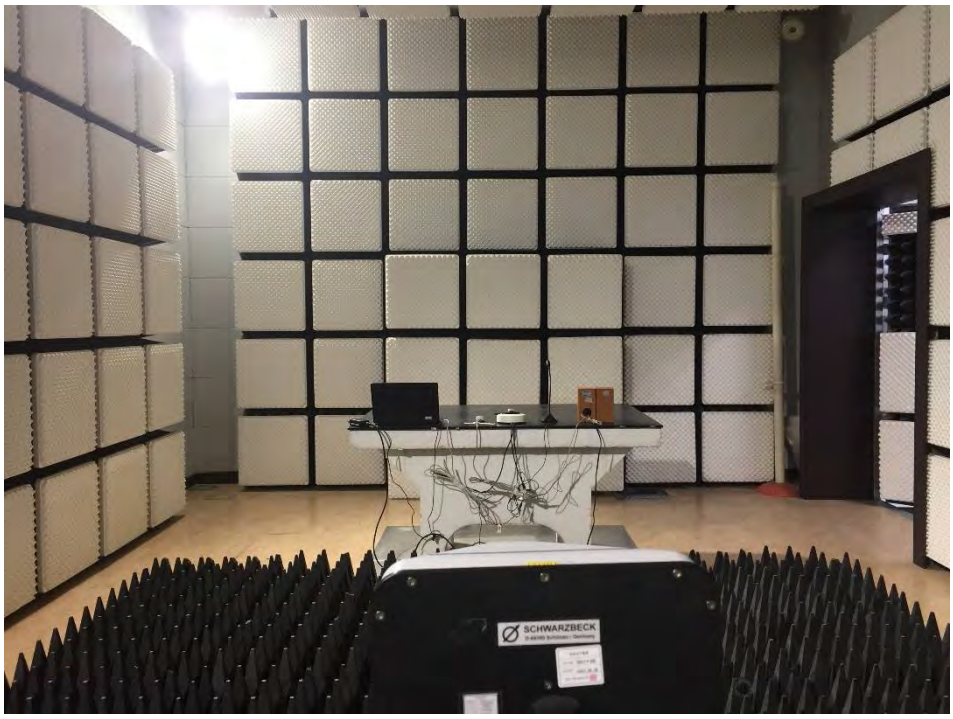




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Radiated Electric Field Emissions(Above 1 ㎓)





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EUT External Photographs

(Top)



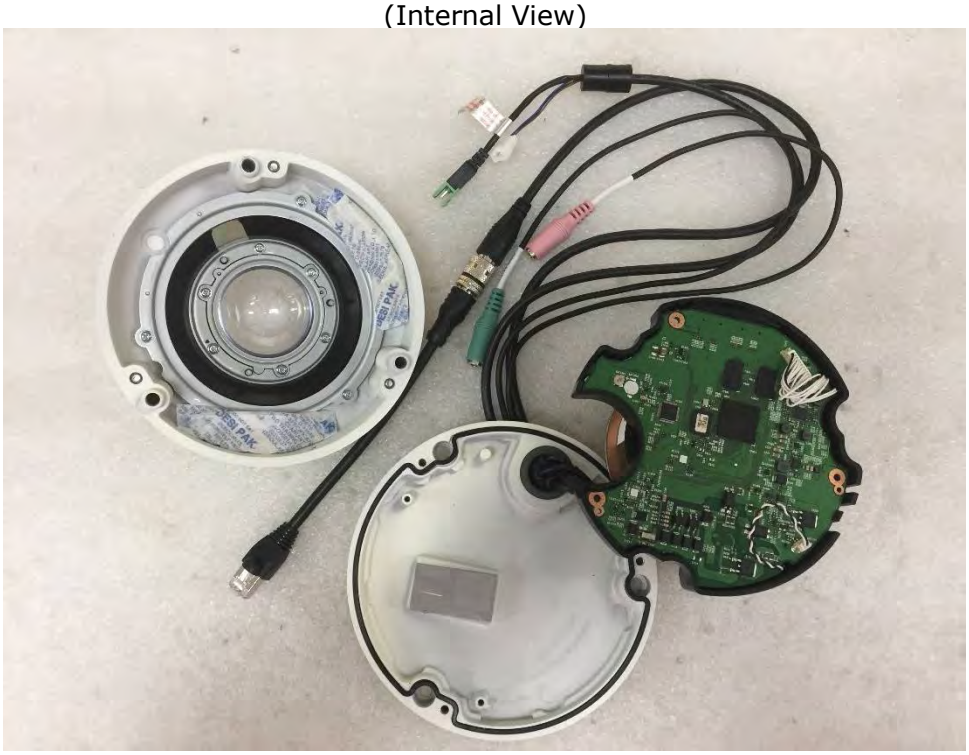
(Bottom)



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EUT Internal Photographs

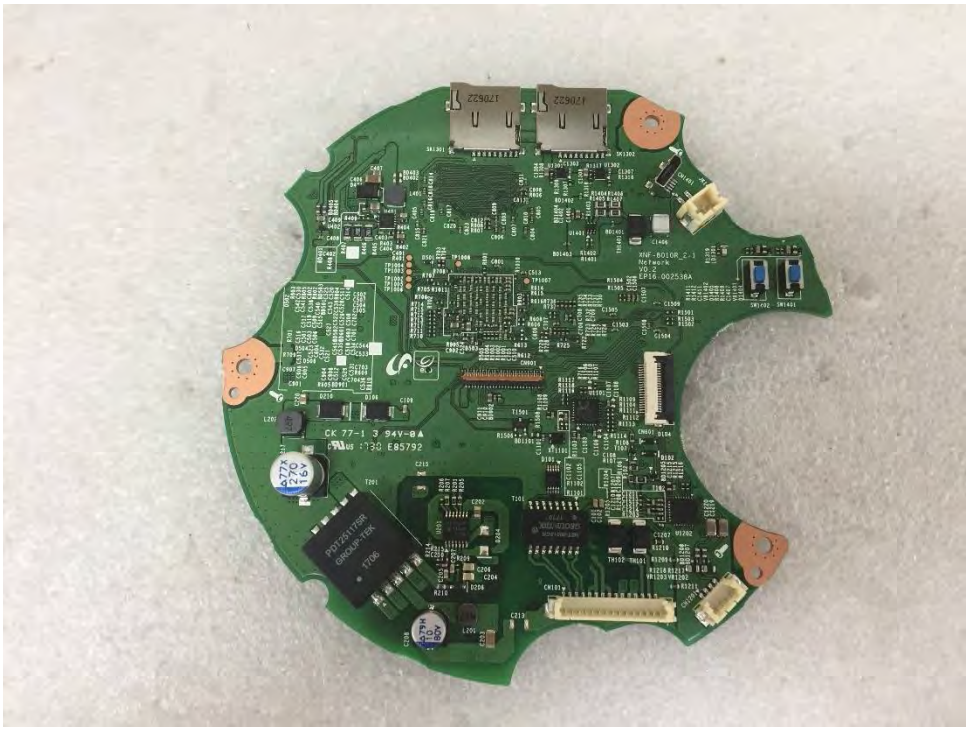
(Internal View)



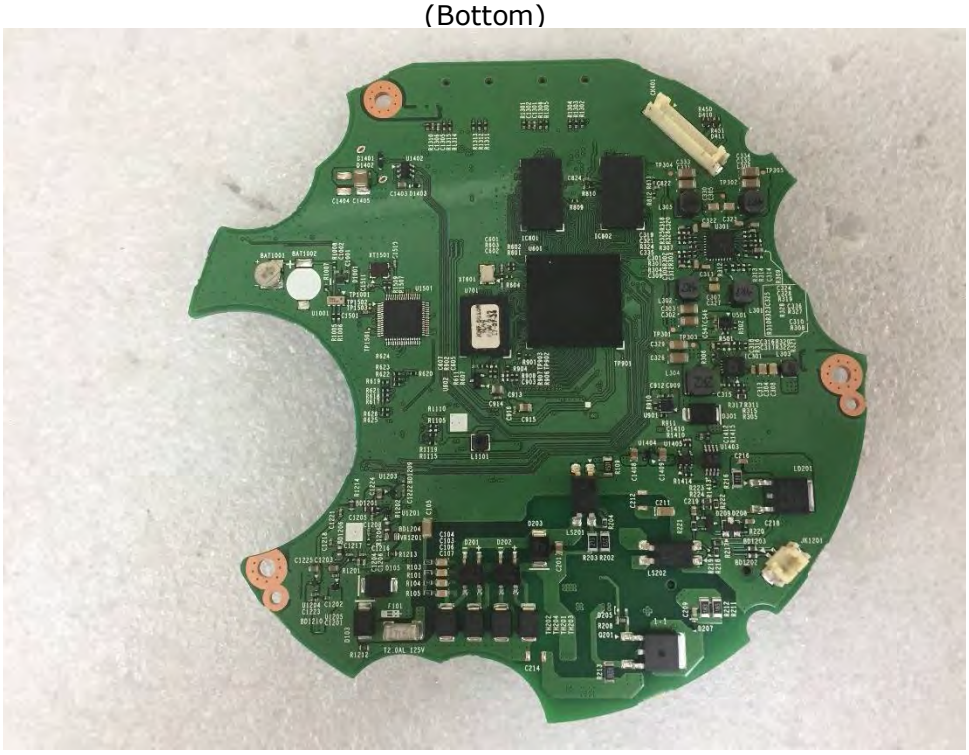
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EUT Internal View – Main board

(Top)



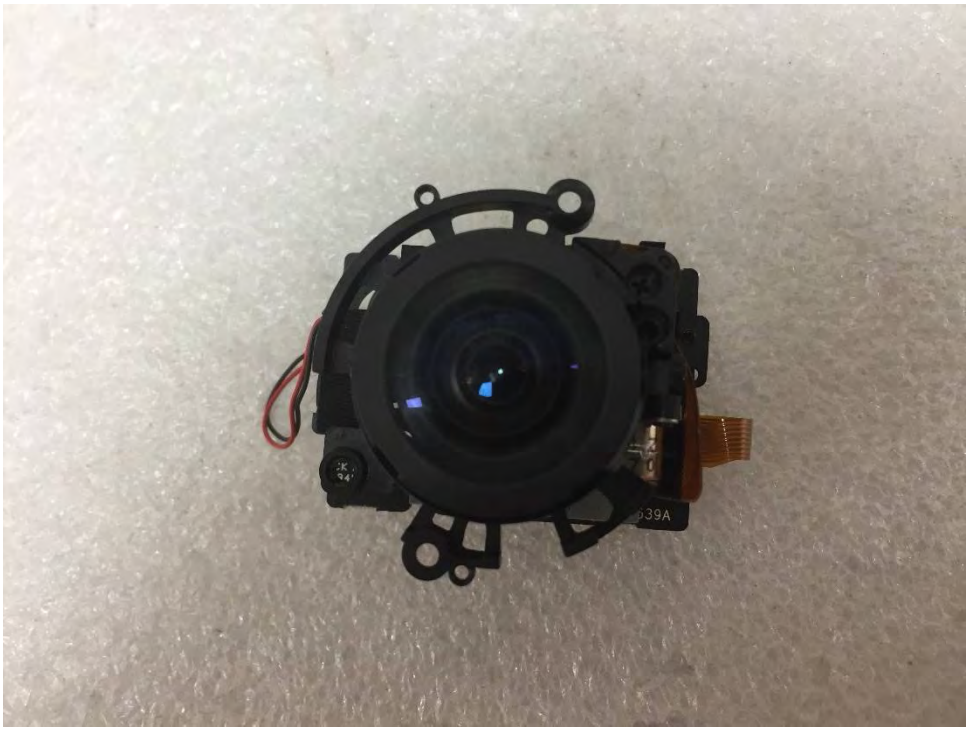
(Bottom)



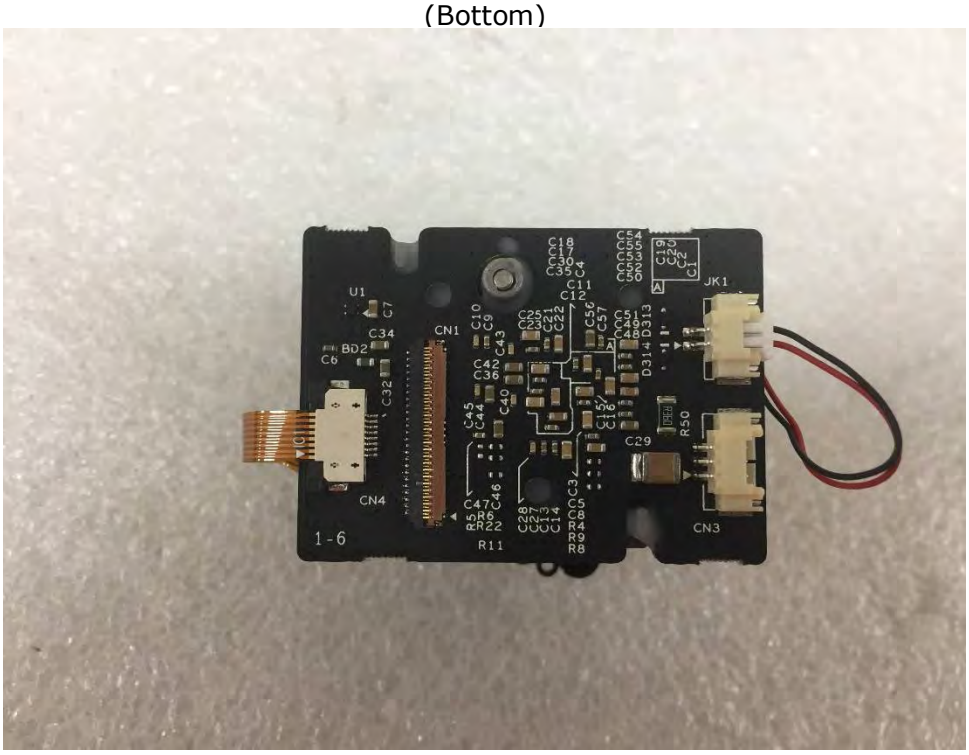
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EUT Internal View – CAMERA board

(Top)



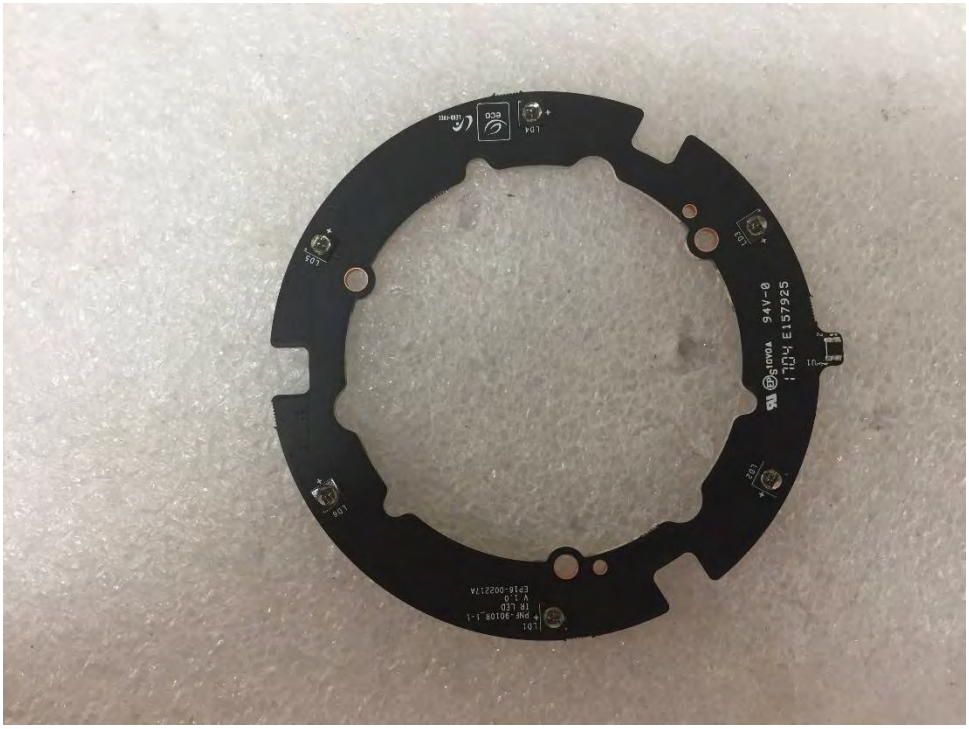
(Bottom)



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EUT Internal View – LED board

(Top)

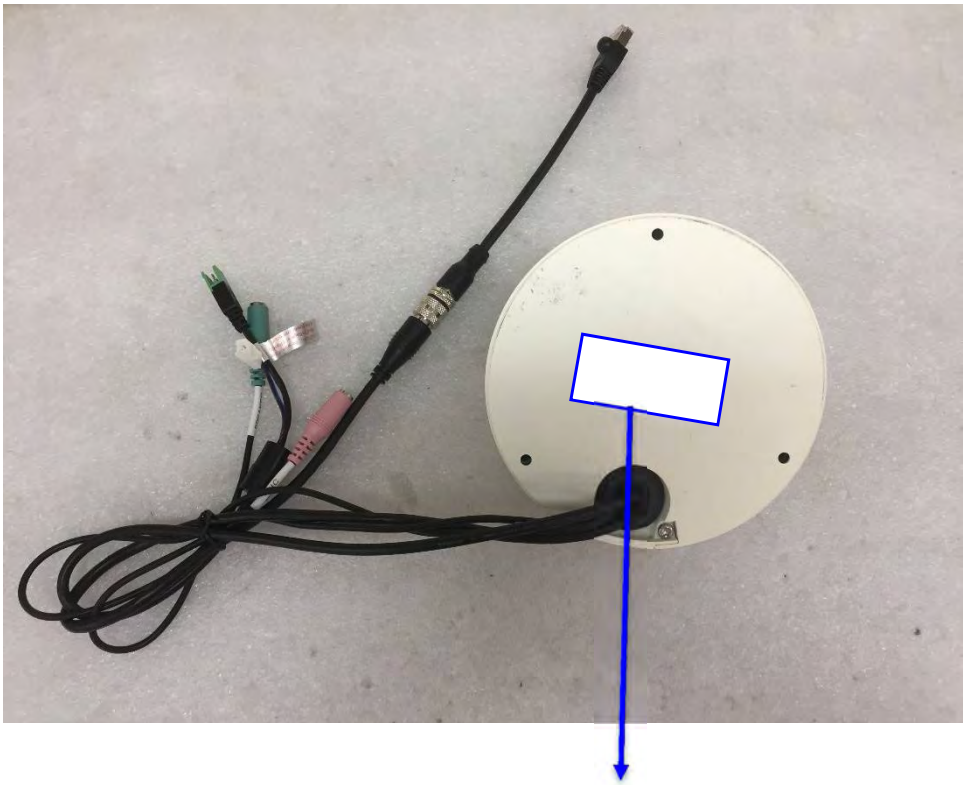


(Bottom)



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Label Photographs



CAN ICES-3 (A)/NMB-3(A)

[LABEL VIEW]

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